AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph beginning on page 6, line 7 with the following amended paragraph:

Example embodiments of ~~In order to solve the above problem,~~ the present invention are ~~is~~ configured as follows:

Please replace the paragraph beginning on page 6, line 9 with the following amended paragraph:

A ~~The~~ first aspect of the invention is a spread spectrum communication system including a transmitter and receiver for performing spread spectrum communications based on a direct sequence spreading scheme and is characterized in that the transmitter includes: a complex spread portion for multiplying an I-phase component signal and a Q-phase component signal of the transmission signal by one type of complex number sequence which will not cause any phase transition of a signal on the I-Q plane in the direction toward the origin; a multiplier for multiplying the signals output from the complex spreading portion by a pseudo-random sequence which is generated at a speed exceeding the symbol rate; a roll-off filter for waveform shaping; and a carrier modulator for performing carrier modulation of the signals having undergone waveform shaping, and that the receiver includes: a carrier demodulator for performing carrier demodulation of the received signal; a multiplier for multiplying the two types of signals output from the carrier demodulator by the pseudo-random sequence generated at the same speed as above; a complex despreading portion for performing despreading by multiplying each signal by the complex number sequence; and a phase-correcting portion for performing phase-correction so as to extract the I-phase and Q-phase components.

Please replace the paragraph beginning on page 7, line 7 with the following amended paragraph:

A ~~The~~ second aspect of the invention ~~is the spectrum spread communication system defined in the first aspect and~~ is characterized in that the complex spreading portion includes: a multiplier for multiplying the I-phase component signal and Q-phase component signal of the transmission signal by the complex number sequence; and an adder for performing addition of the I-phase component signal and Q-phase component signal of the transmission signal respectively to the Q-phase component signal and I-phase component signal multiplied by the complex number sequence, and that the complex despreading portion wherein the complex despreading portion performs the despreading includes: a multiplier for multiplying the signals by the complex number sequence; and an adder for performing addition of the signals to the signals multiplied by the complex number sequence, respectively.

Please replace the paragraph beginning on page 7, line 22 with the following amended paragraph:

A ~~The~~ third aspect of the invention ~~is the spectrum spread communication system defined in the first or second aspect, and~~ is characterized in that the complex number sequence is a pattern in which the I-phase component is constantly set at 1 or -1 and the Q-phase component changes between 1 and -1 alternately.

Please replace the paragraph beginning on page 8, line 3 with the following amended paragraph:

A ~~The~~ fourth aspect of the invention is that the spectrum spread communication system defined in any of the first through third aspects, ~~and~~ further includes: a mapping circuit disposed

prior to the transmitter for mapping the multiplexed transmission signals to points on the I-Q plane.

Please replace the paragraph beginning on page 8, line 8 with the following amended paragraph:

A ~~The~~ fifth aspect of the invention is a spread spectrum communication system including a transmitter and receiver for performing spread spectrum communications based on a direct sequence spreading scheme, and is characterized in that the transmitter includes: a permuting processor for permuting the I-phase component signal and the Q-phase component signal of the transmission signal, once every two clock units and at the same time inverting the sign of one of the component signals; a multiplier for multiplying the signals output from the complex spreading portion by a pseudo-random sequence which is generated at a speed exceeding the symbol rate; a roll-off filter for waveform shaping; and a carrier modulator for performing carrier modulation of the signals having undergone waveform shaping, and that the receiver includes: a carrier demodulator for performing carrier demodulation of the received signal; a multiplier for multiplying the two types of signals output from the carrier demodulator by the pseudo-random sequence generated at the same speed as above; a permuting processor for permuting the signal multiplied by the pseudo-random sequence, once every two clock units and at the same time inverting the sign of the component signal which underwent sign inversion at the transmitter; and a phase-correcting portion for performing phase-correction so as to extract the I-phase and Q-phase components.

Please replace the paragraph beginning at page 9, line 8 with the following amended paragraph:

A ~~The~~ sixth aspect of the invention ~~is the spectrum spread communication system defined in the fifth aspect, and~~ is characterized in that the permuting processor includes: a multiplier for multiplying one of the component signals of the transmission signal by –1; and a switch which, based on a control signal of 1 and 0 appearing alternately, switches between the combination of the I-phase component signal and Q-phase component signal of the transmission signal and the combination of one component signal multiplied by –1 and the other component signal, and that the permuting inverse processor includes: a multiplier for multiplying the signal which was multiplied by the pseudo-random sequence by –1; a switch which, based on a control signal of 1 and 0 appearing alternately, switches between the combination of the signals which were multiplied by a pseudo-random sequence and the combination between the signal multiplied by –1 and the other signal multiplied by another pseudo-random sequence.

Please replace the paragraph beginning at page 9, line 25 with the following amended paragraph:

A ~~The~~ seventh aspect of the invention is that the spectrum spread communication system defined in the fifth or sixth aspect, ~~and~~ further includes: a mapping circuit disposed prior to the transmitter for mapping the multiplexed transmission signals to points on the I-Q plane.

Please replace the paragraph beginning on page 10, line 5 with the following amended paragraph:

An ~~The~~ eighth aspect of the invention ~~is the spectrum spread communication system defined in the seventh aspect, and~~ is characterized in that the mapping circuit maps each of the signals to the I-phase and Q-phase and independently sets the I-phase or Q-phase amplitude and symbol rate, if required.

Please replace the paragraph beginning on page 10, line 10 with the following amended paragraph:

A ~~The~~ ninth aspect of the invention~~, the spectrum spread communication system defined in the seventh aspect, and~~ is characterized in that the mapping circuit has the mapping function of mapping, when a multiple number of data channels are needed to be allotted in response to an information transfer request arising regularly or eventually, the data onto the I-Q plane by using a multiple number of orthogonal sequences whereby increase in symbol rate due to mapping is minimized.

Please replace the heading on page 11, line 23 with the following heading:

Detailed Description of Example Embodiments.

Please replace the paragraph beginning on page 14, line 18 with the following amended paragraph:

Complex despreading portion 329 including a multiplier 333 for multiplying the output signal from multiplier 327 by the complex number sequence, a multiplier 332 for multiplying the signal output from multiplier 328 by the complex number sequence, an adder 330 for adding the output signal from multiplier 332 to the signal output from multiplier 327, an adder 331 for adding the output signal from multiplier 333 to the signal output from multiplier 328 and integrate-and-dump filters 398 ~~332~~ and 399 ~~333~~ for performing waveform shaping of the signals received from adders 330 and 331.

Please replace the paragraph beginning on page 16, line 21 with the following amended paragraph:

Fig.6 is a block diagram showing the second embodiment of a spread spectrum communication system in accordance with the present invention. This spread spectrum communication system represents its transmitter, which is comprised of a multiplier 401 for multiplying the I-phase data D_i by -1 and a switching circuit 402, instead of the complex spreading portion 301 of the first embodiment. Other components are the same as in the first embodiment so the same reference numerals as in the first embodiment are allotted. Switching circuit 402 has switches 403 and 404 controlled in accordance with a control signal.